REMARKS/ARGUMENTS

Responsive to the Office Action dated October 16, 2007, Claims 1-7 and 12 remain pending for prosecution with Claims 1, 5 and 12 being independent.

I. Claim Rejections - 35 U.S.C. § 102

Claims 1-7 and 12 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,900,206 to Pellegrin et al. For the following reasons, Applicant respectfully requests reconsideration and withdrawal of this rejection.

With regard to the independent claims, the Office Action asserts that Pellegrin discloses an apparatus for "making fibrous packing which comprises an extruder (60), a polymer line (62), which is fed by a polymer manifold (not shown in figure), which inherently teaches a pump for receiving a material from the extruder (See figure 3). It further discloses a plurality of spinning pack[s] (12, 50) for receiving the polymer material from the pump line (See figure 3). Figure 3 further teaches that the extruder (60) having [sic] a hopper as a receiving chamber for receiving a plurality of polymer chips and an exit." Pellegrin is further asserted to teach "a moving chain (14) as a belt, wherein the belt is located below the plurality of spinning packs and positioned to receive a plurality [o]f polymer filaments created when the extruded polymer is passed through the plurality of spinning packs (12, 50) (See figure 1). It further discloses an entangling means receiving the plurality of filament from the belt (14) and forming the plurality of polymer fibers into a mat (See figures 4 and 5)."

Applicant respectfully traverses these assertions and submits that Pellegrin fails to anticipate the present invention because Pellegrin fails to disclose each and every element of the claims. In particular, Pellegrin fails to disclose at least one pump receiving an extruded polymer from the at least one extruder. It is asserted that Pellegrin's extruder 60 is fed by a polymer

manifold (not shown) which inherently teaches a pump for receiving a material from the extruder as shown in Figure 3. Applicant respectfully traverses this assertion of inherency and submits that Pellegrin does not, in fact, teach a pump inherently or otherwise. The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' "In *re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted)

Rather than teaching a pump, Pellegrin specifically and unequivocally discloses that, as shown in Fig. 3, "an extruder 60 that supplies polymer material to the polymer fiber die 50 via a polymer line 62." (Col. 5, lines 41-43). Further, "[a]lso associated with the polymer fiber die 50 is a polymer blower 64 which supplies hot pressurized air to the polymer fiber die for attentuation of the polymer fibers 55. The volume of air required is a function of the desired fiber diameter and the amount of polymer material being fiberized, as well as other factors. The air is heated with the heater 66, which is preferably an electric heater, and the heated air is supplied to the polymer die 50 via hot air line 68." (Col. 5, lines 48-56). Pellegrin clearly therefore does not disclose a pump, expressly or inherently, but rather provides a different structure for receiving an extruded polymer from the extruder.

Furthermore, Pellegrin also fails to teach a plurality of spinning packs receiving the extruded polymer from the at least one pump, each spinning pack having a plate with multiple orifices, wherein at least one spinning pack of the plurality of spinning packs has a lesser number of orifices than one or more of the remaining spinning packs. The Office Action asserts that Pellegrin teaches "that the spinning pack or die comprises a plurality of orifices, which inherently suggest that die or spinning pack comprises a plate with orifices (See col. 7 li[n]es 18-23)." Applicant respectfully submits that this passage of Pellegrin does not, in fact, teach a plurality of spinning packs wherein each pack includes a plate with multiple orifices. Rather, Pellegrin teaches that "a method of making a fibrous pack 36 can include the use of one or more orificed *dies* . . . ." (Col. 7, lines 17-19). There is no teaching whatsoever of orificed spinning packs. As discussed above, "[t]o establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted). In the present application, Pellegrin expressly does NOT teach orificed spinning packs and there is insufficient evidence to presume as much.

Finally, Applicant respectfully submits Pellegrin does not disclose an entangling means receiving the plurality of polymer filaments from the belt, the entangling means forming the plurality of polymer fibers into a mat. Contrary to the assertions in the Office Action, Pellegrin actually teaches that the polymer fibers are either: (1) "directed to intersect with the glass fiber veil 24 above the forming chain 14 . . . [wherein] the polymer fibers 55 will be integrated with

the glass fibers 22" (Col. 7, lines 42-45); or (2) [w]here the polymer fibers are directed not to intersect with the glass fiber veil 24 above the forming chain 14, but rather to be deposited on the previously formed material as shown by the dies 50C in FIG. 1, the polymer fibers 55 will be layered with the glass fibers 22 in the fibrous pack 36." (Col. 7, lines 46-51). Thus, not only does Pellegrin fail to disclose an entangling means configured to receiver polymer filaments from the belt, but Pellegrin also fails to teach that the polymer fibers are entangled into a mat.

Accordingly, because Pellegrin fails to teach all of the elements of independent Claims 1, 5 and 12 and the claims depending therefrom, Pellegrin cannot therefore anticipate the invention as claimed.

II. Claim Rejections - 35 U.S.C. § 103

Claims 1-7 and 12 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,679,042 to Varona in view of U.S. Patent No. 6,220,843 to Allen. For the following reasons, Applicant respectfully requests reconsideration and withdrawal of this rejection.

When determining the question of obviousness, underlying factual questions are presented which include (1) the scope and content of the prior art; (2) the level of ordinary skill in the art at the time of the invention; (3) objective evidence of nonobviousness; and (4) the differences between the prior art and the claimed subject matter. Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). Moreover, with regard to the last prong of the *Graham* inquiry, "[t]o determine whether there was an apparent reason to combine the known elements in the way a patent claims, it will often be necessary to look to interrelated teachings of multiple patents; to the effects of demands known to the design community or present in the marketplace; and to the background knowledge possessed by a person having ordinary skill in

the art. To facilitate review, this analysis should be made explicit." KSR International v. Teleflex Inc., 127 U.S. 1727 (2007).

Applicant does not contest that most of the references that have been cited and relied on by the Examiner have at least marginal pertinence to the particular problem(s) solved by the present invention in that the references systems for manufacturing fibrous or polymer melts. Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530, 1535, 218 USPQ 8781, 8786 (Fed. Cir. 1983).

The person of ordinary skill in the art is a hypothetical person who is presumed to know the relevant prior art. Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc., 807 F.2d 955, 962, 1 USPQ2d 1196, 1201 (Fed. Cir. 1986). The level of ordinary skill in the art may be determined by looking to the references of record. In re GPAC, Inc., 57 F.3d 1573, 35 USPQ2d 1116 (Fed. Cir. 1995). The references of record in this case reveal that one skilled in the art would possess a medium level of sophistication. Thus, Applicant submits that, as substantiated by the cited references, those with at least at least an engineering degree or substantial experience in the polymer extrusion field or the like would most likely be a person with ordinary skill in this field of endeavor.

With respect to objective evidence of nonobviousness, Applicant submits that the record supports the conclusion that there are long-felt but unsolved needs met by the present invention. The present invention is directed to the particular problem of providing a system and method for reducing the amount of trim generated in the production of polymer fibers, thereby making the process of creating spunbond or woven mats more efficient. The above-described features represent solutions to long-felt needs that could not be met by the known prior art.

Finally, prima facie obviousness requires that there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of

ordinary skill in the art, to modify the references. This motivation-suggestion-teaching test informs the Graham analysis. "To reach a non-hindsight driven conclusion as to whether a person having ordinary skill in the art at the time of the invention would have viewed the subject matter as a whole to have been obvious in view of multiple references," there must be "some rationale, articulation, or reasoned basis to explain why the conclusion of obviousness is correct." In re Kahn, (Fed. Cir. 2006). The *KSR International* decision by the Supreme Court has not eliminated the motivation-suggestion-teaching test to determine whether prior art references have been properly combined. Rather, in addition to the motivation-suggestion-teaching test, the Court discussed that combinations of known technology that are "expected" may not be patentable. Stated in the affirmative, therefore, combinations are nonobvious and patentable if unexpected. In the present application, no single prior art reference nor any combination thereof meets the claimed limitations of Applicant's invention.

In the Office Action , it is asserted that Varona teaches "an apparatus (105) which comp0rises an extruder assembly (114), a motor (118) as a pump for receiving an extruded polymer from the extruder, wherein the pump forces the molten material through the extruder into the delivery pipe (12), a hopper (110) for receiving a polymer chip (112), plurality of spinning pack (122, 124, 126) receiving the extruded polymer from the pump or extruder assembly, a conveyor belt (116, 128), wherein the belt (128) is located below the plurality of spinning pack and positioned to receive a plurality of filaments (A,B,C) created when the extruded polymer is passed through the plurality of spinning pack (See figure 5, col. 6 lines 42-66), and an entangling means such as conventional withdrawn roll or calendar roll for receiving the plurality of polymer filaments from the belts, and involved to emboss or bond the web (100) into a mat or other product with a pattern (See col. 7 lines 23-30)." Varona is further asserted to

teach "that the polymer fiber is PET or polyethylene (See col. 5 lines 54-56)" and that "the die head (122) produces large denier, die head (124) produces medium denier and a diet head (126) produces fibers of fine denier, then the resulting gradient will have the fibers in zone A having the largest pore size, zone B having smaller pore size and Zone C having smallest pore size (See col. 7 lines 52-60)." Furthermore, it "teaches that the die head having apertures of different diameter and positioned as the laterally outermost spinning packs in a row of spinning packs, and aligned with an outer lateral edge of the belt." However, the Office Action admits that Varona "fails to teach or suggest that one of the plurality of die head having a less number of orifices [sic]." The Office Action further clarifies that Varona "fails to teach or suggest a spinning pack having a plate with multiple orifices."

To make up for this deficiency, Allen is asserted to disclose "a melt blowing apparatus which comprises plurality of spinning packs in a raw, wherein a spinning pack having a plate (11, 12) with multiple orifices (See figures 3 and 4). Figure 3 further teaches different shapes of the filaments which inherently teaches that the one or more spinning packs of the plurality of spinning packs comprises lesser numbers of orifices (See assembly and operation of the patent." Therefore, the Office Action concludes that "[i]t would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the invention of Varona ('042) by providing a spinning pack with a plate wherein plate comprises multiple orifices because such an alignment is involved to achieve a predetermined and varied pattern of the product (See col. 8 lines 1-7) as suggested by Allen."

Applicant respectfully traverses the assertion that the Varona and Allen references, when combined, teach or suggest all of Applicant's claim limitations. As discussed above and admitted by the Office Action, Varona fails to teach or suggest a plurality of spinning packs,

each spinning pack having a plate with multiple orifices, wherein at least one spinning pack of the plurality has a lesser number of orifices than one or more of the remaining spinning packs. Rather, Varona teaches a non-woven organic mat with a pore size gradient to improve wicking properties. The pore size gradient is created by incorporating an array of different fiber diameters or compositions into the non-woven mat and then subjecting the mat to a heat source. The differential shrinkage of the different diameter fibers or compositions creates a pore size gradient. Applicant agrees that there is no teaching or suggestion whatsoever in Varona to provide reduced-capacity spinning packs or spinning packs with fewer orifices than others as claimed by Applicant.

Applicant respectfully submits that, contrary to the Office Action's assertions, Allen does not teach or suggest these elements of Applicant's claimed invention. Allen discloses a melt-blowing technology for delivery adhesive to a substrate that could theoretically be applied to the formation of an organic non-woven mat. In particular, Allen teaches a modulated die construction that facilitates repair and/or replacement in addition to providing user flexibility in selecting effective die lengths. Contrary to the Office Action assertions, however, Allen does not teach or suggest spinning packs at all much less each spinning pack having a plate with multiple orifices, wherein at least one spinning pack of the plurality has a lesser number of orifices than one or more of the remaining spinning packs. It is not spinning packs that contain a plate (11, 12) as stated by the Office Action, but rather "the meltblowing die 10 of the present invention comprises a plurality of side-by-side die units 15 comprising manifold segments 11 and die modules 12." (Col. 3, lines 62-65). Moreover, the diet units 15 are further disclosed as including "a manifold segment 11, a die module 12 mounted thereon, and a valve actuator 20 for controlling the flow of polymer melt through the die segment." (Col. 4, lines 5-7).

Moreover, Applicant respectfully traverses the Examiner's assertion that Allen's Figure 3 teaches different shapes of the filaments thereby inherently teaching that the one or more spinning packs comprises a lesser number of orifices. This is inapposite and the Examiner has provided no evidence or substantiation for this claim of inherency. "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy,* 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). In fact, Allen's assembly and operation section specifically teaches that the differences in filament size and shape are a result of variable die lengths. There is absolutely no basis in fact or technical reason to support the assertion that Allen teaches spinning packs much less spinning packs wherein one or more of the spinning packs comprises a lesser number of orifices.

Accordingly, Varona and Allen, individually and in combination, fail to teach or suggest the combination asserted by the Examiner. Further, neither of the references teaches nor suggests all of the elements of independent Claims 1, 5 and 12 and no resultant composition could have been created from these references that would meet the limitations of these claims. Moreover, one of ordinary skill in the art would not have arrived at Applicant's claimed invention because Applicant's invention would not be an "expected" result of the combination of these references since both references, individually and in combination, fail to meet all the limitations of the subject claims. Therefore, Applicant's Claims 1-7 and12 are nonobvious.

III. Conclusion

Applicant respectfully submits the claims as amended are in condition for formal allowance and such is courteously solicited. If any issue regarding the allowability of any of the

pending claims in the present application could be readily resolved, or if other action could be taken to further advance this application such as an Examiner's amendment, or if the Examiner should have any questions regarding the present amendment, it is respectfully requested that the Examiner please telephone Applicant's undersigned attorney in this regard. Should any fees be necessitated by this response, the Commissioner is hereby authorized to deduct such fees from Deposit Account No. 11-0160.

Respectfully submitted,

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